

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

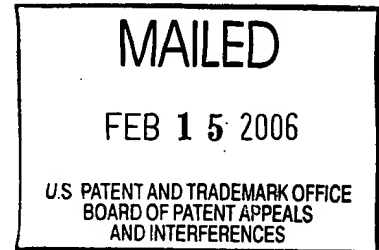
UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte TSUTOMU SASAKI, KATSUYUKI MATSUMOTO and TORU KAMIMURA

Appeal No. 2006-0075
Application No. 09/745,303

ON BRIEF



Before KRASS, JERRY SMITH, and BARRETT, Administrative Patent Judges.

KRASS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 1-4.

The invention pertains to data reproduction devices. In particular, a device, designed to reduce power consumption, for reproducing data recorded on a memory card is disclosed and claimed.

Independent claim 1 is reproduced as follows:

1. A data reproduction device comprising a control circuit for reading out data recorded on a memory card having a controller mounted thereon, and a data processing circuit for giving required processing to the read data and outputting the generated data,

wherein the controller of the memory card is so constructed that an active mode is set for reading out the data with a current consumption of a first current value in response to memory access of data reading and thereafter automatically follows to a standby mode for waiting for next memory access with a non-zero current consumption of a second current value less than the first current value,

wherein the control circuit comprises a buffer for temporarily storing the data to be read out from the memory card, first control means to read out the data from the memory card at a first bit rate to store the generated data to the buffer, and second control means to read out the data stored in the buffer at a second bit rate less than the first bit rate to supply the read data to the data processing circuit, and while the data is intermittently read out from the memory card and stored in the buffer according to the first control means, the data is read out from the buffer according to the second control means.

The examiner relies on the following references:

| | | |
|----------------------------|-----------|----------------------|
| Robinson et al. (Robinson) | 5,428,579 | Jun. 27, 1995 |
| Kawasaki et al. (Kawasaki) | 6,332,196 | Dec. 18, 2001 |
| | | (filed Feb. 4, 1999) |

Claims 1-4 stand rejected under 35 U.S.C. §103 as unpatentable over Robinson in view of Kawasaki.

Reference is made to the brief and answer for the respective positions of appellants and the examiner.

OPINION

At the outset, we note that, in accordance with appellants' grouping of the claims, at page 4 of the brief, all claims will stand or fall together. Accordingly, we will focus on independent claim 1.

In rejecting claims under 35 U.S.C. §103, it is incumbent upon the examiner to establish a factual basis to support the legal conclusion of obviousness. See In re Fine, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the examiner is expected to make the factual determinations set forth in Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), and to provide a reason why one having ordinary skill in the pertinent art would have been led to modify the prior art or to combine prior art references to arrive at the claimed invention. Such reason must stem from some teachings, suggestions or implications in the prior art as a whole or knowledge generally available to one having ordinary skill in the art. Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir.), cert. denied, 488 U.S. 825 (1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985), cert. denied, 475 U.S. 1017 (1986); ACS Hosp. Sys., Inc. v. Montefiore Hosp., 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). These showings by the examiner are an essential part of complying with the burden of presenting a prima facie case of obviousness. Note In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). If that burden is met, the burden then shifts to the applicant to overcome the prima facie case with

argument and/or evidence. Obviousness is then determined on the basis of the evidence as a whole and the relative persuasiveness of the arguments. See Id.; In re Hedges, 783 F.2d 1038, 1040, 228 USPQ 685, 687 (Fed. Cir. 1986); In re Piasecki, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984); and In re Rinehart, 531 F.2d 1048, 1051, 189 USPQ 143, 146-147 (CCPA 1976). Only those arguments actually made by appellant have been considered in this decision. Arguments which appellant could have made but chose not to make in the brief have not been considered and are deemed to be waived [see 37 CFR §41.67(c)(1)(vii)].

We refer to pages 4-5 of the answer for the examiner's application of Robinson to the instant claimed subject matter. Basically, the examiner contends that Robinson discloses the claimed subject matter except that Robinson "does not disclose the buffer memory that data is read into and that when the amount of data stored in the memory falls below a threshold the memory card is then operated in the active mode" (answer-page 5).

The examiner then refers to Kawasaki for a buffer that stores data from a storage device and, when the buffer contains sufficient data, the storage device is operated in a lower power mode. Specifically, the examiner refers to the abstract and column 3, lines 5-45, of Kawasaki for a teaching of when the amount of data falls below a threshold the storage device is operated in an active mode and data is read into the buffer.

The examiner also alleges that Kawasaki "inherently" includes a "control means" to control reading from and writing to the buffer, meeting the "second control means to read out data stored in the buffer" limitation of claim 1.

The examiner then concludes that it would have been obvious to utilize the teachings of Kawasaki in the system of Robinson and "provide a buffer between the memory card and the requestor of the data. The operation of the memory card would operate in a manner similar to that of the storage device taught by Kawasaki...When there is sufficient data in the buffer the memory card can be operated in a reduced power state, when the amount falls below a threshold the memory card would be operated in the powered up state (active mode) and data read into the buffer. This arrangement would provide power savings because the amount of time the memory card operated in a powered on state (active mode) would be decreased" (answer-page-6).

With regard to the limitation of "read out the data from the memory card at a first bit rate to store the generated data to the buffer...read out the data stored in the buffer at a second bit rate less than the first bit," these limitations would be "inherently" met by Kawasaki, according to the examiner, because of the three possible scenarios (the memory data transfer rate being less than, equal to, or greater than, the buffer data transfer rate), the only scenario which would offer a power savings would be the last one, i.e., the memory data transfer rate being greater than the buffer data transfer rate. This is so, according to the examiner, because the first and second scenarios would

never fill up the buffer with data because the data is being read out of the buffer at a greater or equal rate than data is being read from the memory. See page 6 of the answer.

Appellants' position is that Robinson discloses a flash memory card with a power control register that is used to place certain flash memories in a power down mode; that the examiner has admitted that Robinson does not disclose the buffer memory that data is read into and that when the amount of data stored in the memory falls below a threshold the memory card is then operated in the active mode; and that Kawasaki does not provide for this deficiency.

In particular, appellants argue that Kawasaki teaches only one powered state, which occurs only when a predetermined space occurs in the buffer region by transferring data to the host. The other state in which the buffer is completely full of data to be transferred to the host, consumes no power. Appellants contrast this with the instant invention in which there are two powers states, where one is a high (active) mode for reading data from the memory card to the buffer at a high bit rate, and the other is a low (standby) mode in which the memory card waits for a next memory access while the buffer outputs data at a low rate (brief-page 10).

Appellants also argue that neither reference mentions or suggests the relationship between the current consumption and the respective data transfer rates of the card and the buffer, as recited in claim 1.

We have carefully considered the evidence before us, including the disclosures of the Robinson and Kawasaki references and the arguments of appellants and the examiner and we conclude therefrom that the examiner has established a prima facie case of obviousness which has not been successfully rebutted by appellants.

We note, first, that appellants do not argue the combinability of the references, merely that Kawasaki teaches only one powered state, contrasting this with the two powered states of the instant invention. We agree with the examiner that this argument is not persuasive of unobviousness because the examiner relied on Robinson, not Kawasaki, for a teaching of two-powered states. Robinson, the examiner pointed out, teaches the operating of a memory card in both an active and a standby mode in order to conserve power. Appellants do not dispute this finding by the examiner.

With regard to appellants' argument that neither reference mentions or suggests the relationship between the current consumption and the respective data transfer rates of the card and the buffer, as recited in claim 1, we agree with the examiner's analysis, at pages 6-7 of the answer, concluding that Kawasaki can teach only three scenarios. In two of the scenarios, either the memory data transfer rate is less than the buffer data transfer rate or the memory data transfer rate is equal to the buffer data transfer rate. In either of these two cases, the buffer would never fill up with data because the data is being read out of the buffer at a speed greater than or equal to the memory data transfer rate. Thus, there is no overfill situation, requiring a power down, or standby, of the memory. Since the memory is always transferring data to the buffer, the memory is

always powered on and there would be no power saving. It would appear, as the examiner indicates, that the only situation in which there would be a power savings in Kawasaki, which Kawasaki and Robinson are both interested in providing, is the third scenario, wherein the memory data transfer rate is greater than the buffer data transfer rate. Then, the buffer would become too full to receive any more data from the memory and the memory would need to go into a standby mode intermittently until the buffer could output data, freeing up some space therein in order for the memory to send data. During these periods of standby of the memory, power is being conserved, as desired by Kawasaki.

Thus, it appears to us that the examiner has presented a reasonable case for finding, in Kawasaki, that the data from the memory card is read out at a first bit rate to store the generated data to the buffer and that the data stored in the buffer is read out at a second bit rate, less than the first bit rate, as claimed.

Appellants did not file a reply brief, and so the only response we have from appellants to the examiner's rationale with regard to the different bit rates appears at pages 10-11 of the brief. Therein, appellants argue bit rates of 8Mbps versus 128Kbps and show that Kawasaki does not suggest these bit rates disclosed in the instant specification.

We do not find this argument to be persuasive of unobviousness since instant claim 1 is silent as to the actual bit rate. Moreover, this argument by appellants discloses no error in the examiner's rationale.

Appeal No. 2006-0075
Application No. 09/745,303

Accordingly, since we find the examiner's rationale and application of the references to instant claim 1 to be reasonable but find nothing within appellants' arguments to convince us of any error in the examiner's position, we will sustain the examiner's rejection of claims 1-4 under 35 U.S.C. §103.

The examiner's decision is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED


ERROL A. KRASS
Administrative Patent Judge


JERRY SMITH
Administrative Patent Judge


LEE E. BARRETT
Administrative Patent Judge

)
)
)
) BOARD OF PATENT
)
) APPEALS AND
)
) INTERFERENCES
)
)

EK/gw

Appeal No. 2006-0075
Application No. 09/745,303

ARMSTRONG, KRATZ, QUINTOS, HANSON &
BROOKS, LLP
1725 K STREET, NW SUITE 100
WASHINGTON, DC 20006